CLAIMS

I Claim:

1. A cutting tool assembly, comprising:

a) a tool holder including a clamp;

b) a cutting insert support member removably held in said tool holder by said clamp;

c) a cutting insert removably held by said insert support member; and,

d) said insert support member defining an insert receiving pocket defined in part by a body portion and a clamping portion, the clamping portion coupled to said body portion by an integrally formed resilient portion which permits slight resilient movement between said clamping and body portions to facilitate the installation of a cutting insert in said pocket.

2. The apparatus of claim 1 wherein said resilient portion enables clamping forces exerted by said tool holder clamp to be transferred to the cutting insert held in said pocket.

3. The apparatus of claim 1 wherein said resilient portion includes at least one laterally extending slot.

4. The apparatus of claim 1 wherein said coupling portion includes a plurality of relatively thin slots.

5. The apparatus of claim 1 wherein said body portion and said clamping portion each define gripping surfaces engagable with complementally formed surfaces on said cutting insert.

6. The apparatus of claim 5 wherein said gripping surfaces are V-shaped.

7. The apparatus of claim 1 wherein said cutting insert support member is in the form of a blade and said tool holder clamp is operative to apply clamping forces to said clamping portion of said blade, whereby said blade is held in said tool holder.

8. The apparatus of claim 7 wherein said blade defines an insert receiving pocket at opposite ends.

9. The apparatus of claim 8 wherein each pocket includes an abuttment wall which is engaged by a cutting insert held in said pocket.

10. The apparatus of claim 3 further including an aperture spaced from said pocket and an end of said slot opening into said aperture.

11. The apparatus of claim 10 wherein said pocket and said aperture are separated by a short slot segment.

12. A cutting insert support blade adapted to be held in a tool holder, comprising:

a) a body portion;

b) a clamp portion;

c) a resilient coupling region joining said clamp portion to said body portion;

d) a pair of cutting insert receiving pockets defined between said body and clamping portions; and,

e) said coupling portion including a plurality of relatively thin slots formed in said coupling portion.

13. The apparatus of claim 12 wherein said plurality of slots includes a pair of upper and lower slots associated with one of said insert receiving pockets and another pair of upper and lower slots associated with another of said insert receiving pockets.

14. The apparatus of claim 13 wherein said plurality of slots further includes a laterally extending slot positioned between said upper and lower slots.

15. A cutting tool assembly, comprising:

a) a tool holder including a removable clamp;

b) a cutting insert support blade removably held in said tool holder by said clamp;

c) said insert support blade defining at least one insert receiving pocket defined in part by a body portion and a clamping portion coupled together by an integrally formed deformable portion which permits slight resilient movement between said clamping and body portions to facilitate the installation of a cutting insert in said pocket;

d) said body portion and said clamping portion including respective gripping surfaces movable towards and away from complementally formed surfaces on a cutting insert held in said pocket; and,

e) said gripping surfaces urged into clamping engagement with said complementally formed insert surfaces by said tool holder clamp.

16. The apparatus of claim 15 wherein said integrally formed deformable portion includes at least one relatively thin slot located between said body portion and said clamping portion.

17. The apparatus of claim 15 wherein said deformable portion includes a plurality of relatively thin slots between said clamping portion and said body portion.

18. The apparatus of claim 15 wherein said body, clamping and deformable portions are integrally formed from a single piece of material.

19. The apparatus of claim 15 wherein said insert support blade defines two insert receiving pockets and said blade is reversible in said tool holder to present either one of two cutting inserts held by said pockets into a machining position.

20. A cutting insert support member adapted to be held in a tool holder comprising:

a) a body portion;

b) a deformable clamp portion; and,

c) each of said portions defining gripping surface engagable with complementally shaped surfaces on said insert, said gripping surfaces movable towards each other when a clamping force is applied to said deformable clamp portion in order to secure a cutting insert between said body and clamp portions.